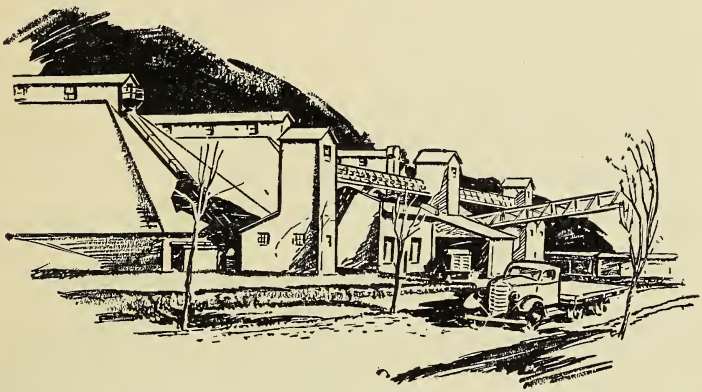
Cooperative Possibilities in COTTONSEED OIL MILLS



One of the newest developments in agricultural cooperation.

COOPERATIVE cottonseed oil milling—one of the newest developments in agricultural cooperation—has proved a practical means by which thousands of cotton farmers have increased the returns from their farming operations. In the 4 years 1934–37 the cooperative mills realized savings of $1,200,000 on 225,000 tons of seed; savings which were considerably greater than the combined cost of the plants.

Impressive as this figure may be, it does not however give an unqualified "go" signal for the organization of this type of cooperative. There are certain conditions which contribute to success and without which the venture probably would fail.

Prior to 1934 there was only one farmers' cooperative oil mill, the Minter County Oil Mill at Minter City, Miss. Since that time six more associations have been organized. Four of these associations are located in Texas, one in Arkansas, and one in California. With the

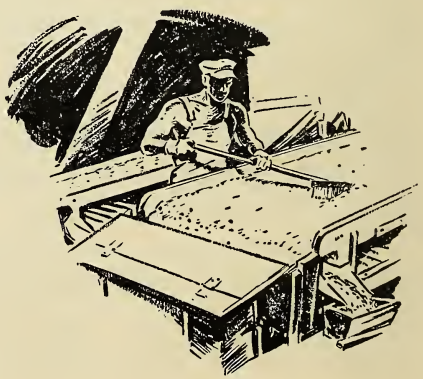
exception of the California association all of them now own mills and will be actively engaged in crushing of seed during the 1940–41 season. The California association has thus far operated only as a bargaining agency in the marketing of its members' seed, but with good success. The names, the locations, and dates of organization of these associations are:

Association	*Year Organized*
Minter City Oil Mill, Minter City, Miss.	1922
Farmers' Cooperative Oil Mill, El Paso, Tex.	1934
Tornillo Cotton Oil Co., Tornillo, Tex.	1934
Plains Cooperative Oil Mill, Lubbock, Tex.	1937
Delta Products Co., Wilson, Ark.	1937
Acala Cooperative Oil Mill, Inc., Tulare, Calif.	1938
Netex Cooperative Gins Co., Greenville, Tex.	1939

Average Returns Higher Through Cooperatives

Compared with prevailing local prices received by farmers who were not members of a cooperative, the returns or final prices for cottonseed crushed by the associations averaged $6.50 per ton higher in 1934; $5.40 higher in 1935; $8.50 higher in 1936; and $3.35 higher in 1937.

Available information indicates that other farmers, at least in some areas, may similarly increase their returns by organizing and efficiently operating a cooperative mill. Figures published by the United States Bureau of the Census show that in the country as a whole the average spread between the value of products from a ton of seed (oil, cake or



The first step in cottonseed processing is the removal of all foreign materials. After cleaning, the lint is removed, and the hulls are cracked and separated from the meats.

After cooking, the meats are put into molds and placed in a hydraulic press, as here illustrated. This removes the oil and leaves the cottonseed cake which is then ground into meal.

meal, hulls, and linters) and the price received for the seed by farmers was $17.68 in 1936; $14.05 in 1937; and $12.46 in 1938.

But during each of these years the average expenses of the cooperative cottonseed oil mills were only $8 per ton, including transportation

Average value of cottonseed products[1] produced per ton of cottonseed, farm price of cottonseed, and spread between farm price and total value of products, by States, season 1938–39.

State	Value of cottonseed products per ton, crushed	Farm price for cottonseed per ton	Spread between farm price and total value
	Dollars	*Dollars*	*Dollars*
All States[2]	34.26	21.80	12.46
Alabama	33.58	21.54	12.04
Arizona	35.99	21.02	14.97
Arkansas	34.65	22.03	12.62
California	38.33	22.65	15.68
Georgia	34.51	22.72	11.79
Louisiana	33.43	20.58	12.85
Mississippi	33.49	23.31	10.18
North Carolina	35.74	22.66	13.08
Oklahoma	35.22	19.68	15.54
South Carolina	35.03	23.03	12.00
Tennessee	34.32	22.80	11.52
Texas	33.51	20.96	12.55

[1] Crude oil, cake and meal, hulls, and linters.

[2] Includes data for States other than those listed.

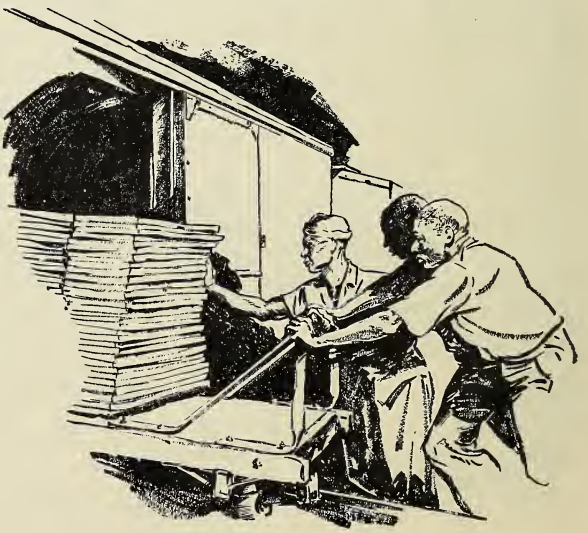
Source: United States Department of Commerce, Bureau of the Census, Bulletin 176.

charges, interest on loans, all other costs, and dividends on invested capital. On the basis of the spreads mentioned, and with costs no greater than the $8 average, cooperative savings might have been made to the extent of $9.65 per ton in 1936; $6 per ton in 1937; and $4.45 per ton in 1938.

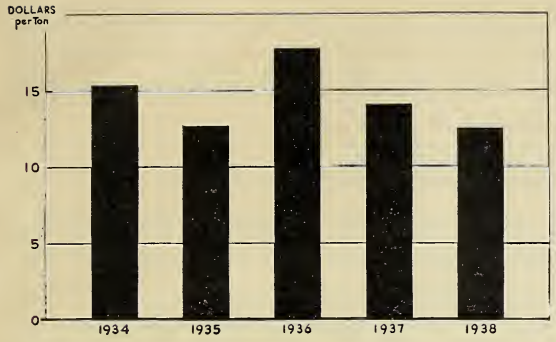
"Too Many" Mills May Result in Excessive Cost

It should be recognized, of course, that comparisons for the Nation as a whole or for any individual State do not necessarily indicate either that savings will be gained or that there is a need for a cooperative within a given locality. Within the same State, the average spread may be considerably greater in one locality than in another. Consequently, the need for a cooperative must be determined on the basis of conditions existing within the territory in which the cooperative mill will operate.

The number of existing facilities also may have a bearing on the need for a cooperative. However, it may be that farmers would benefit from the operation of a cooperative oil mill in certain areas despite the fact that there is already an excess mill capacity. Oil mill facilities in the United States are frequently utilized less than one-half of the season. Obviously, an industry which could operate practically the entire year but uses its facilities only 50 percent of the time or less must have considerably higher costs than it would if mills were operating nearer to capacity. These higher costs necessarily result in relatively wide margins between prices of cottonseed to farmers and the value of the manu-



In this picture workers are shown loading cottonseed cake for shipment from the cooperative mill to a mixed feed manufacturer.



This chart shows the average spread between the value of the manufactured cottonseed products per ton, and the price received by growers for cottonseed. These spreads include all costs of assembling, transporting, processing, together with profits of ginners and oil mills.

factured products. Wide margins mean lower returns to farmers for cottonseed. Thus, even in communities where there are "too many" oil mill facilities, farmers may have an opportunity to relieve themselves of the excess charges that result from heavy overhead costs by voluntarily consolidating their patronage through a cooperative oil mill which will operate to capacity most of the year.

Need for a Cooperative Must Be Recognized

A need for a cooperative is the first prerequisite for a successful organization. Even if this need exists, however, and the value of a cooperative mill to the farmers is a demonstrable fact, there is an even more important essential to success. This essential is a thorough-going realization of the need and value on the part of the farmers themselves.

In other words, there must be a determined demand for the mill, and the demand must be backed up by a willingness to support it. Membership support involves two very tangible items: (1) Patronage, or supplying the mill with volume, and (2) financing.

It is obvious that sufficient volume is needed if a cooperative oil mill is to be a successful business. Unless an association can be assured of a volume adequate for an efficient and economical operation, no useful purpose will be served in organizing it. The volume of seed necessary for economical operation, of course, will depend on the size or capacity of the mill. On the basis of available information, a mill equipped with hydraulic or the newer type expeller presses, and manufacturing high-protein cottonseed cake and other products, should have an annual volume of 4,000 to 4,500 tons per press. An association operating a

four-press mill would need, therefore, a volume of 16,000 to 18,000 tons. A mill equipped with the new type expeller presses manufacturing whole pressed cottonseed or low-protein cake should have a seasonal volume of 2,000 to 2,500 tons of seed per press.

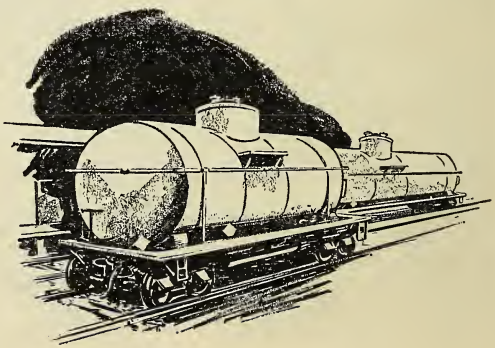
Capital Requirements Relatively Large

Aside from this volume, as has been said, the patrons also must furnish capital needed to establish and operate their own business. The capital requirements of a cooperative oil mill are fairly large.

For example, the cost of a new four-press hydraulic mill including land, buildings, and equipment is between $160,000 and $200,000. Second-hand equipment may be bought for substantially less. On the basis of an annual volume of 16,000 tons of seed, the cost of a new four-press mill would mean a total investment of from $10 to $12.50 per ton crushed. If at all possible the members should furnish initially about one-half of the cost of the mill. This would mean that members would furnish $5 to $6.25 capital for each ton of seed. In addition to capital for the purchase of facilities, money also must be available for making advances or partial payments to members for seed delivered and for meeting current expenses. At lease a part of this capital should also be furnished by members.

In addition to the original investment, members supply further capital to their associations through deduction authorized from their net returns. This means that instead of receiving all of the savings earned through their cooperative in any one year, a part of these savings is invested in the business. They may be used to reduce the amounts which the cooperative has borrowed from outside sources, and eventually to repay the initial investments made by the members. When

Cottonseed oil is shipped from the mill to refiners in tank cars.



earlier membership investments are paid back in order of their precedence from earnings of each current year, the association is said to be financed on the "revolving capital" plan.

Cooperative mills may be set up as centralized associations or as federations of cooperative cotton gins. In the centralized type of association, farmers have membership in the cooperative mill and deal directly with it. In the federated type, the membership of the cooperative mill is made up of local cooperative gins; the cooperative mill deals with the local cooperative gin; and the local cooperative gin in turn deals with its individual farmer-members.

In both the centralized and the federated organization set-up the farmers own and control the cooperative mill either directly or indirectly. In areas where the number of cooperative gins is large enough to supply a cooperative mill with the volume of seed necessary for efficient and economical operation, the federated type of organization is perhaps desirable. The cooperative mills at Lubbock and Greenville, Tex.—two areas having numerous cooperative gins—are federated organizations. The other five associations are centralized.

The Cooperative Mill in Action

Farmers marketing seed through commercial agencies receive the offered price, and the transaction is completed. In marketing through the cooperative mill, the price received is the proceeds from the sale of the cottonseed products minus the cost of processing and other necessary expenses. Since the final price cannot be determined until the seed has been crushed and the products sold, cooperative mills advance money to the growers when they deliver the seed. This advance is below the anticipated net sales value of the products, and may be followed by additional advances prior to the final settlement.

To avoid counteracting the advantages gained from low operating costs and mill efficiency, the cooperative must also market its cottonseed products advantageously. If it does not sell its products until after they are manufactured, the mill is in a speculative position on the cottonseed it accumulates in storage at ginning time. By selling a relatively large proportion of the manufactured products for future delivery, as the seed is received at the mill and before it is manufactured, the cooperative mills are able to operate conservatively.

Sales outlets of cooperatives are necessarily the same as those of commercial mills. Crude cottonseed oil is sold to refiners; cottonseed cake, meal, and hulls to farmers, ranchers, feed-mixing concerns, and dealers; and linters to mattress, furniture, and cellulose manufacturers. All the crude oil, most of the linters, and some of the meal, cake, and hulls are sold through brokers. In addition to almost 500 brokers and dealers in cottonseed products located in the Cotton Belt, there are several hundred brokers and dealers in other sections of the country.

The mills sell direct to local customers the products that are not sold through brokers. Most of the cooperative mills have been able to sell relatively large quantities of cottonseed meal and hulls to farmers, ranchers, and feed dealers located within short distances from the mill. The relatively low value of hulls compared with their weight usually makes it unprofitable to ship them any great distance.

Total sales of cottonseed products of the five cooperative mills amounted to slightly more than $3,500,000 during the 1937–38 season. The sales of crude oil accounted for almost 55 percent, cake and meal sales slightly more than 30 percent, and linter and hull sales about 15 percent of the total sales proceeds of these associations.

This leaflet is condensed from Circular No. C–114, "Crushing Cottonseed Cooperatively," by John S. Burgess, Jr. Copies of this larger publication with more detailed information may be obtained while available from—

Information and Extension Division

Farm Credit Administration
United States Department of Agriculture
Washington, D. C.

L-4 GPO May 1940